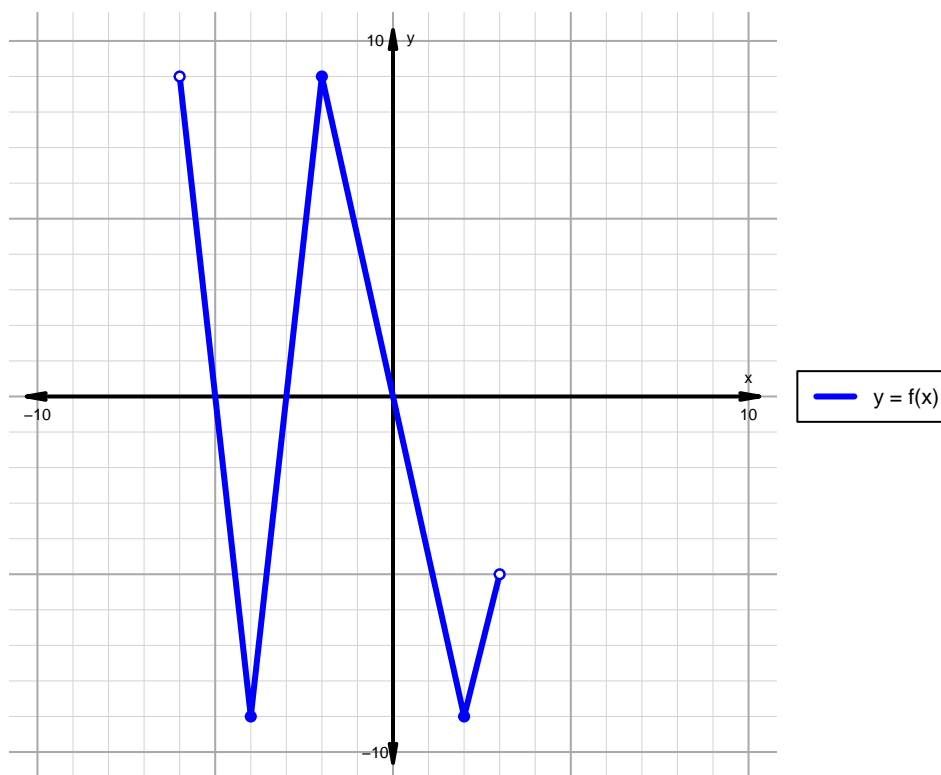


Name: _____

Date: _____

Intervals, Transformations, and Slope Solution (version 14)

1. The function f is graphed below.

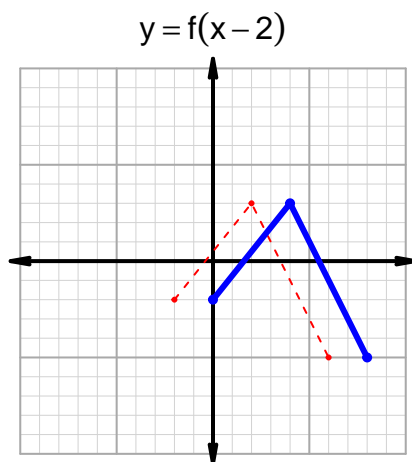
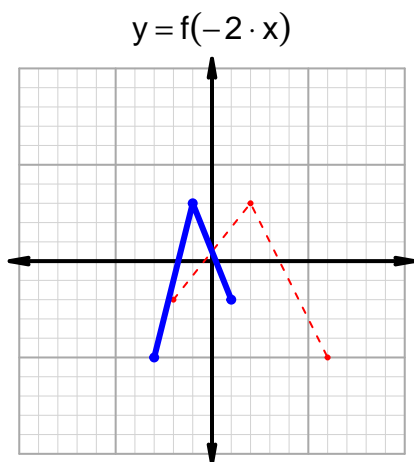
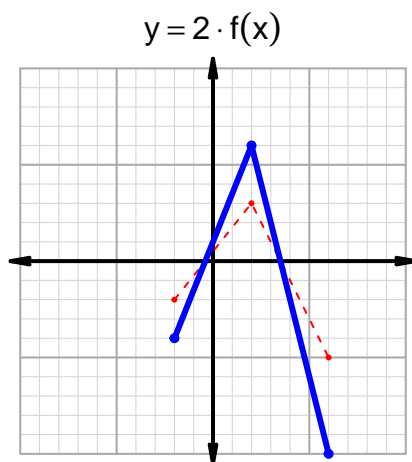
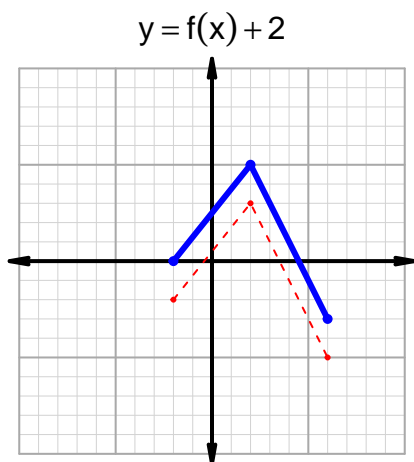


Indicate the following intervals using interval notation. Remember, you can use \cup between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-6, -5) \cup (-3, 0)$
Negative	$(-5, -3) \cup (0, 3)$
Increasing	$(-4, -2) \cup (2, 3)$
Decreasing	$(-6, -4) \cup (-2, 2)$
Domain	$(-6, 3)$
Range	$(-9, 9)$

Intervals, Transformations, and Slope Solution (version 14)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$ to find the average rate of change between $x_1 = 35$ and $x_2 = 91$. Express your answer as a reduced fraction.

x	$g(x)$
35	42
42	91
63	35
91	63

$$\frac{f(91) - f(35)}{91 - 35} = \frac{63 - 42}{91 - 35} = \frac{21}{56}$$

The greatest common factor of 21 and 56 is 7. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{3}{8}$$